CALIFORNIA ENERGY COMMISSION

1516 NINTH STREET SACRAMENTO, CA 95814-5512 www.energy.ca.gov



NOTICE OF PROPOSED AWARD (NOPA)

Improving Natural Gas Energy Efficiency, Waste Heat-to-Power, and Near-Zero
Emission Distributed Generation Systems
GFO-17-501
Groups 2 and 3
December 8, 2017

On August 11, 2017, the California Energy Commission (Energy Commission) released a competitive solicitation to fund industrial energy efficiency and renewable energy and advanced generation research projects that focus on reducing natural gas use. Up to \$10,700,000 in Natural Gas Research Program funding is available to fund applications in:

- Group 1: Develop and Demonstrate Energy Efficiency Technologies and Strategies to Reduce Natural Gas Use in the Industrial Sector;
- Group 2: Develop and Demonstrate Cost-effective Waste Heat to Power Systems for California Industries;
- Group 3: Develop and Demonstrate Near-Zero Emission Small and Micro-scale Distributed Generation Systems; and
- Group 4: Technical Assessment of the Energy Efficiency Potential of the Chemicals and Allied Products Industry

This NOPA covers only Groups 2 and 3. The NOPA for Groups 1 and 4 will be released separately. For Groups 2 and 3, the anticipated total funding available was \$4,140,000. The Energy Commission received 10 proposals for Groups 2 and 3 by the due date of October 10, 2017. Each proposal was screened, reviewed, evaluated and scored using the criteria in the solicitation. Nine proposals passed the Stage One Application Screening.

The attached "Notice of Proposed Award" identifies each applicant selected and recommended for funding by Energy Commission staff and includes the recommended funding amount and score. The total amount recommended for Groups 2 and 3 is \$4,143,341.

Funding of proposed projects resulting from this solicitation is contingent upon the approval of these projects at a publicly noticed Energy Commission Business Meeting and execution of a grant agreement. If the Energy Commission is unable to timely negotiate and execute a funding agreement with an Applicant, the Energy Commission, at its sole discretion, reserves the right to cancel or otherwise modify the pending award, and award the funds to another applicant.

In addition, the Energy Commission reserves the right to: 1) add to, remove, or shift funding between the different groups if there are insufficient passing proposals in one

group and 2) negotiate with successful applicants to modify the project scope, schedule, and/or level of funding.

This notice is being mailed to all parties who submitted an application to this solicitation and is also posted on the Energy Commission's website at: www.energy.ca.gov/contracts/.

For information, please contact Angela Hockaday at (916) 654-5186 or Angela. Hockaday@energy.ca.gov.

Angela Hockaday Commission Agreement Officer



California Energy Commission GFO-17-501

Improving Natural Gas Energy Efficiency, Waste Heat-to-Power, and Near-Zero Emission Distributed Generation Systems

Project Group 2 – Develop and Demonstrate Cost-effective Waste Heat to Power Systems for California Industries

Notice of Proposed Award

December 8, 2017

| Rank Number | Project Applicant | Title | Energy Commission Funds Requested | Energy Commission Funds Recommended | Match Funds | Score | Award Status | | | | | |
|---------------------------|--------------------|---|---|--|----------------|-------|-----------------|--|--|--|--|--|
| Proposed A | Proposed Awards | | | | | | | | | | | |
| | | Waste Heat to Ultra-High Efficiency Osmotic Power | | | | | | | | | | |
| 1 | T2M Global LLC | (WHOP) | \$1,299,109 | \$1,299,109 | \$133,523 | 86.84 | Awardee | | | | | |
| | Altex Technologies | | | | | | | | | | | |
| 2 | Corporation | Advanced Thermo Electric Generator System (ATEGS) | \$1,499,875 | \$840,891 | \$205,918 | 82.12 | Awardee | | | | | |
| Total Funding Recommended | | | \$2,798,984 | \$2,140,000 | \$339,441 | | | | | | | |
| Grand Total | | | \$2,798,984 | \$2,140,000 | \$339,441 | | | | | | | |



California Energy Commission GFO-17-501

Improving Natural Gas Energy Efficiency, Waste Heat-to-Power, and Near-Zero Emission Distributed Generation Systems

Project Group 3 – Develop and Demonstrate Near-Zero Emission Small and Micro-scale Distributed Generation Systems

Notice of Proposed Award

December 8, 2017

| Rank Number | Project Applicant | Title | Energy Commission Funds Requested | Energy Commission Funds Recommended | Match Funds | Score | Award Status |
|---------------------------|--|--|--|--|--|-------|--|
| Proposed Awards | | | | | | | |
| 1 | EtaGen. Inc. | High-Efficiency and Ultra-Low Emissions Linear Generator Demonstration Project in Southern California | \$995.659 | \$995.659 | \$1,386,066 | 91.50 | Awardee |
| 2 | Institute of Gas Technology dba Gas Technology Institute | Demonstration of 4.5 and 25 kW CARB-compliant Reciprocating Engine Micro-CHP Systems | \$1,499,406 | \$1,007,682 | \$167,600 | 79.25 | Awardee |
| Total Funding Recommended | | | \$2,495,065 | \$2,003,341 | \$1,553,666 | | |
| | NLine Energy, Inc. Benz Air Engineering, Co., Inc. Energent Corporation N-Gen Technologies | NLine Energy's Novel Renewable Natural Gas Recovery and Distribution Generation Demonstration and Validation Project (Biogas DG Project) DC Microgrid Supported by Near Zero Emission CHP Energent's Groundbreaking Near-Zero Emission, Micro- Scale Distributed Generalization Demonstration and Validation Project Stirling Generator Demonstrating Natural Gas to Electricity Conversion with Near-Zero Emissions | \$1,102,092 \$1,489,256 \$815,594 \$1,243,989 | \$0 \$0 \$0 | \$150,635 \$488,052 \$110,002 \$132,005 | | Did Not Pass Did Not Pass Did Not Pass Did Not Pass |
| | The Regents of the University of California, Irvine | Development and Demonstration of a Residential 1.5kW SOFC Micro-CHP System | \$750,000 \$5.400.931 | \$0 \$0 | \$182,104 \$1.062.798 | | Did Not Pass |
| Did Not Pas | is | | , ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, | Ψ | Ţ., <u>.</u> ,100] | | |
| Total | M-TriGen, Inc. | Developing and Demonstrating Near-Zero Emissions for Micro-Scale Distributed Power Generation Systems | \$800,000 \$800,000 | \$0 \$0 | \$80,000 \$80,000 | | Did Not Pass |
| Grand Total | | | \$8,695,996 | \$2,003,341 | \$2,696,464 | | |